

# NATURAL HISTORY MISCELLANEA

Published by

The Chicago Academy of Sciences

Lincoln Park-2001 N. Clark St. Chicago 14, Illinois U.S.A.

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No. 187

December 28, 1967

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## Lizards in the Diet of an American Caecilian

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An adult female *Dermophis mexicanus* taken July 18, 1963, at Finca San Jerónimo, Chiapas, on the slopes of Volcán Tacaná, contained two lizards which were manually regurgitated upon capture. So far as we are aware no American species of caecilian has been recorded previously as feeding upon terrestrial vertebrates, although Werner (1931: 203) notes that aquatic species (e.g. *Typhlonectes* spp.) may feed upon fishes, and that *Typhlops* and *Rhinophis* have been eaten by certain species of the Eastern Hemisphere. In fact Dunn could report in monographing American species only that "The animals are unquestionably carnivorous, but the precise aliment is unknown" (1942: 452). Gorham (1962) has summarized the taxa of *Gymnophiona*, but makes no comment on food and, in response to a personal inquiry, informs us that he is aware of no pertinent information other than the sources already indicated. We have also consulted Dr. Richard Newcomer of Hope College, Dr. E. H. Taylor of the University of Kansas, and Dr. Marvalee Wake of the University of Chicago, all experienced in the literature and first-hand knowledge of caecilians, and none is aware of any other information on food habits of American species. We are indebted to all these consultants for their aid in the search for information.

The *Dermophis* from which the stomach contents were forced measures 417 mm in total length, 27 mm at midbody. It was uncovered at a depth of three feet by workmen digging a ditch.

The lizards regurgitated from this caecilian were a half-grown female *Ameiva undulata parva* 56 mm s-v (tail incomplete, 53 mm of base present), and a small adult female *Anolis dollfusianus* 35 mm s-v (tail incomplete, 31 mm of base present). Both lizards had suffered severe damage to the chest region, and both have the rectum everted. Neither had been much digested; a little effect upon the sides of the head of the anole is evident.

The condition of the prey suggests that the caecilian exerted exceptionally strong pressure upon the lizards in swallowing them; certainly

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the skull of caecilians is powerfully built, and although this structure has been interpreted generally as a burrowing adaptation it could well, incidentally, constitute a powerful masticatory apparatus. Of course the rectal eversion and chest damage of the prey could possibly have other origins, but technique of ingestion is perhaps the most attractive hypothesis.

Both species of lizards are quick of movement and diurnal in habit. If captured alive, they must have been encountered in a refuge at night, or on a cool rainy day. The *Ameiva* is terrestrial, but the *A. nolis* is generally arboreal although specimens may occasionally resort to the ground for food, refuge, egg-laying and travel between favored shrubs or trees. Neither specimen contains eggs and the season of capture was several months later than expected for egg-laying. Accordingly the specimens may have merely sought refuge in the ground, perhaps in a burrow or under some object, and were there discovered and overcome by the caecilian. It is also quite possible that the caecilian found the lizards already dead in the ditch where it was secured. The ditch is frequently filled with water following daily rains ; at such times small animals could easily have been trapped and drowned.

It is impossible to state whether terrestrial American caecilians commonly ingest vertebrates, but since such food should remain recognizable in the stomach for considerable periods, it seems unlikely that it is often accepted, else remains would have been found before now. The restricted dietary needs of these animals, which have lived for months without food in captivity, may however reduce the expected frequency of encounter of food remains in the stomach. In any event, it is apparent that dead lizards of appropriate size may well prove acceptable to caecilians which in captivity refuse to accept offers of the expected "normal" diet of earthworms and other invertebrates.

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